



**California Energy Commission**

## **IEPR Committee Workshop**

**CALIFORNIA ENERGY DEMAND**

**2011-2022**

**PRELIMINARY STAFF FORECAST**

**SMUD Service Area Forecast**

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# **SMUD Service Area Results**



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# SMUD Consumption Forecast Results

Consumption (GWH)				
	<i>CED 2009 (Dec. 2009)</i>	<i>CED 2011 Preliminary-High</i>	<i>CED 2011 Preliminary-Mid</i>	<i>CED 2011 Preliminary-Low</i>
1990	8,358	8,361	8,361	8,361
2000	9,494	9,552	9,552	9,552
2010	10,656	10,344	10,344	10,344
2011	10,793	10,636	10,600	10,521
2015	11,504	11,565	11,370	11,172
2020	12,131	12,675	12,276	12,124
2022	--	13,151	12,657	12,486
Average Annual Growth Rates				
1990-2000	1.28%	1.34%	1.34%	1.34%
2000-2010	1.16%	0.80%	0.80%	0.80%
2011-2015	1.61%	2.11%	1.77%	1.51%
2011-2020	1.31%	1.97%	1.64%	1.60%
2011-2022	--	2.02%	1.70%	1.58%



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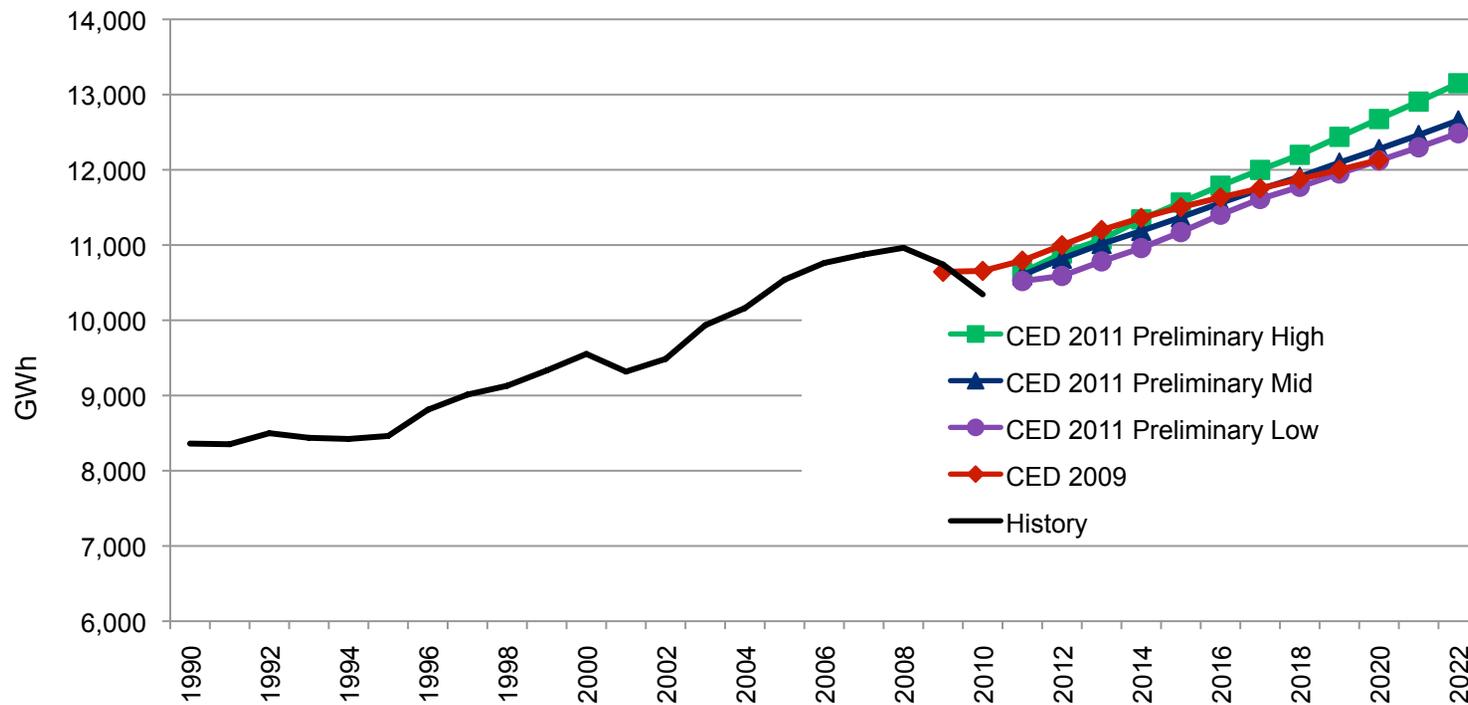
### SMUD Peak Forecast Results

Peak (MW)				
	<i>CED 2009 (Dec. 2009)</i>	<i>CED 2011 Preliminary-High</i>	<i>CED 2011 Preliminary-Mid</i>	<i>CED 2011 Preliminary-Low</i>
1990	2,167	2,193	2,193	2,193
2000	2,687	2,686	2,686	2,686
2010	3,050	2,975	2,975	2,975
2011	3,088	2,983	2,985	2,967
2015	3,273	3,232	3,187	3,134
2020	3,445	3,517	3,416	3,371
2022	--	3,629	3,503	3,447
Average Annual Growth Rates				
1990-2000	2.17%	2.05%	2.05%	2.05%
2000-2010	1.28%	1.03%	1.03%	1.03%
2011-2015	1.47%	2.02%	1.65%	1.38%
2011-2020	1.23%	1.84%	1.51%	1.43%
2011-2022	--	1.67%	1.37%	1.23%



# SMUD Electricity Consumption Forecast

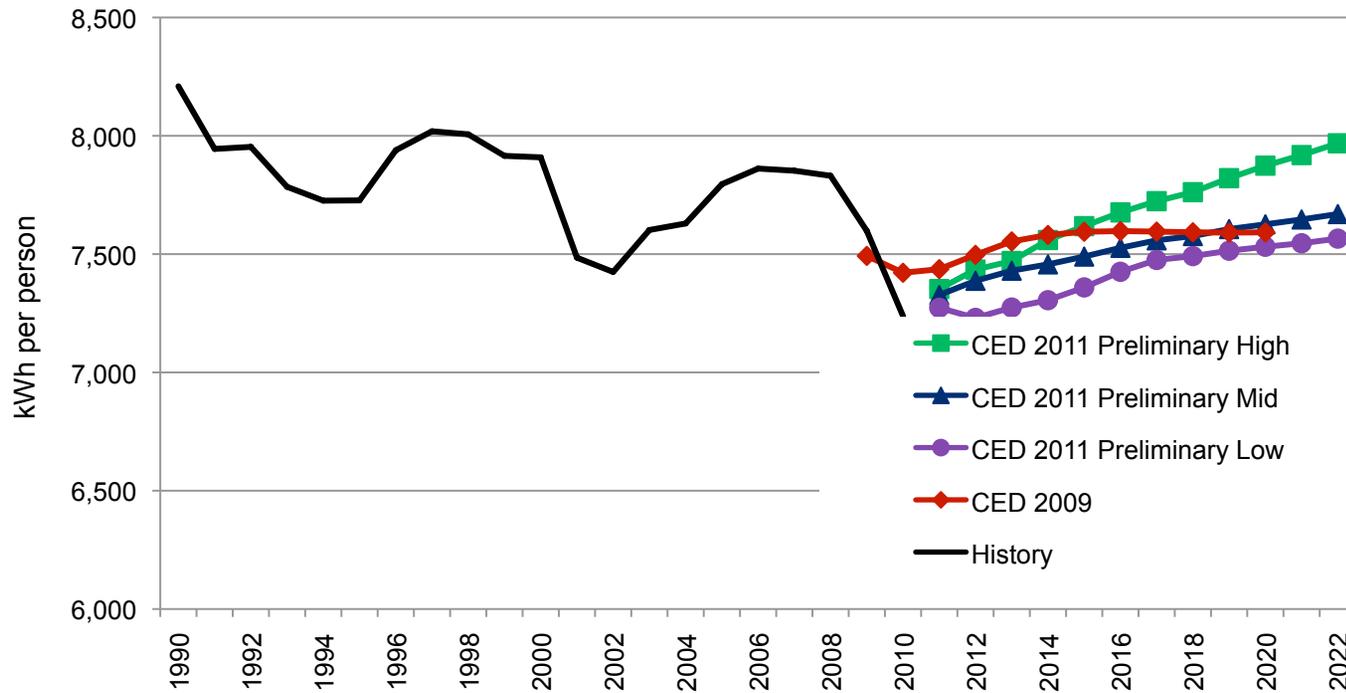
- Lower starting point , slightly higher growth rate





## SMUD per Capita Consumption

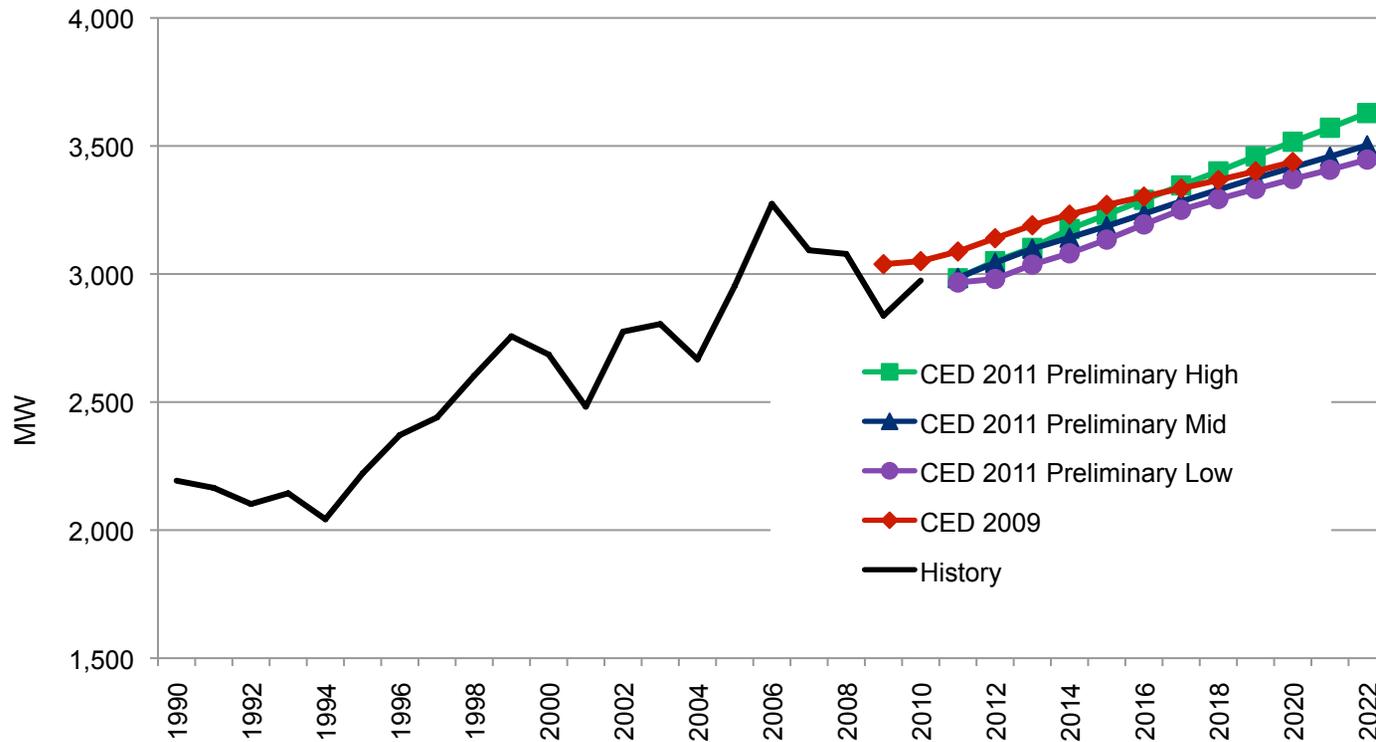
- Projected growth after decreasing historical trend





## SMUD Planning Area Peak Forecast

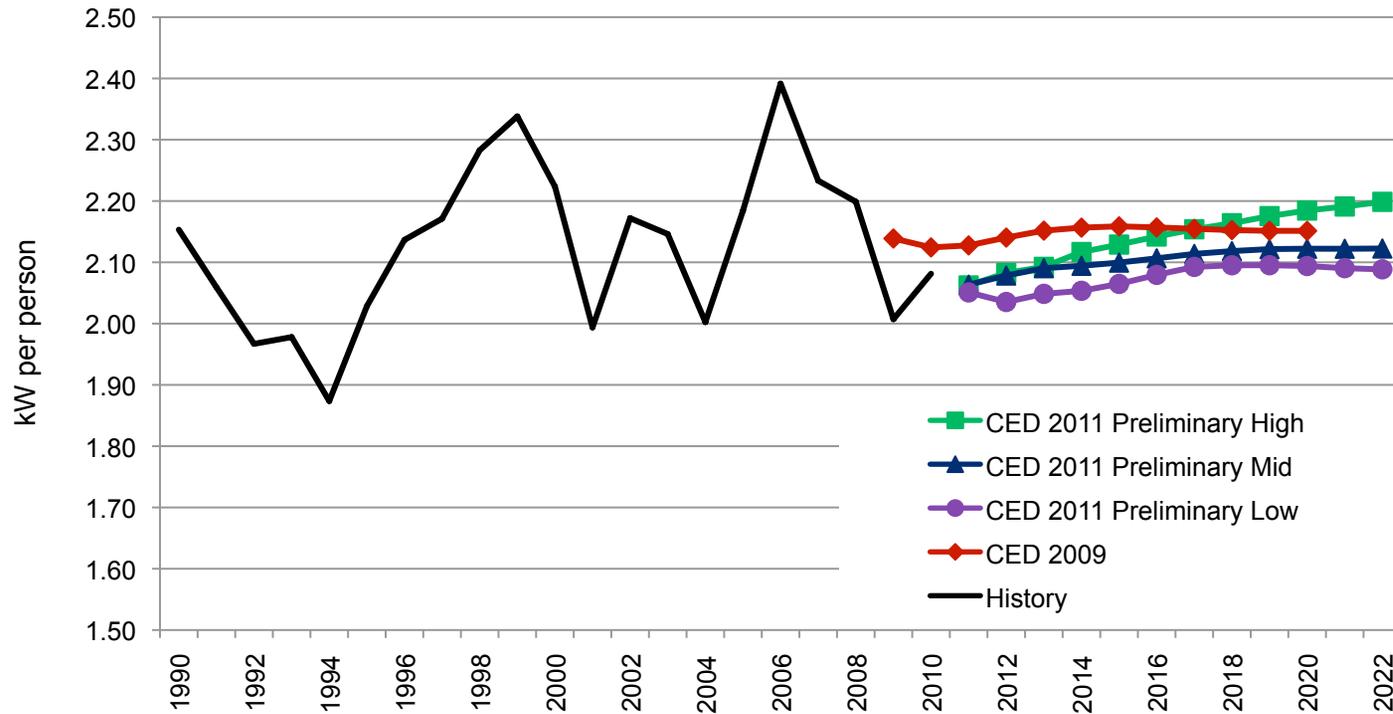
- Lower starting point , slightly higher growth rate





## SMUD per Capita Peak

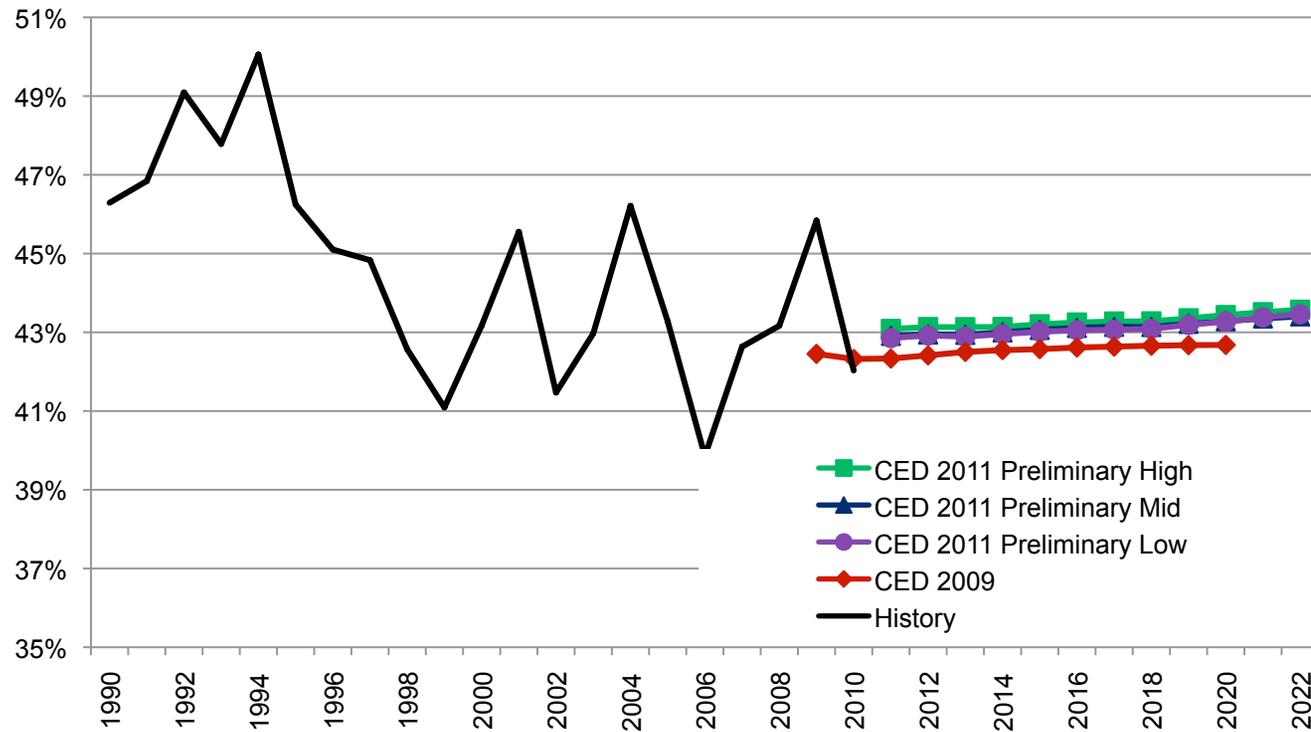
- Relatively constant in recent history





## SMUD Planning Area Load Factor

- Slightly higher than CED 2009, but with similarly low growth





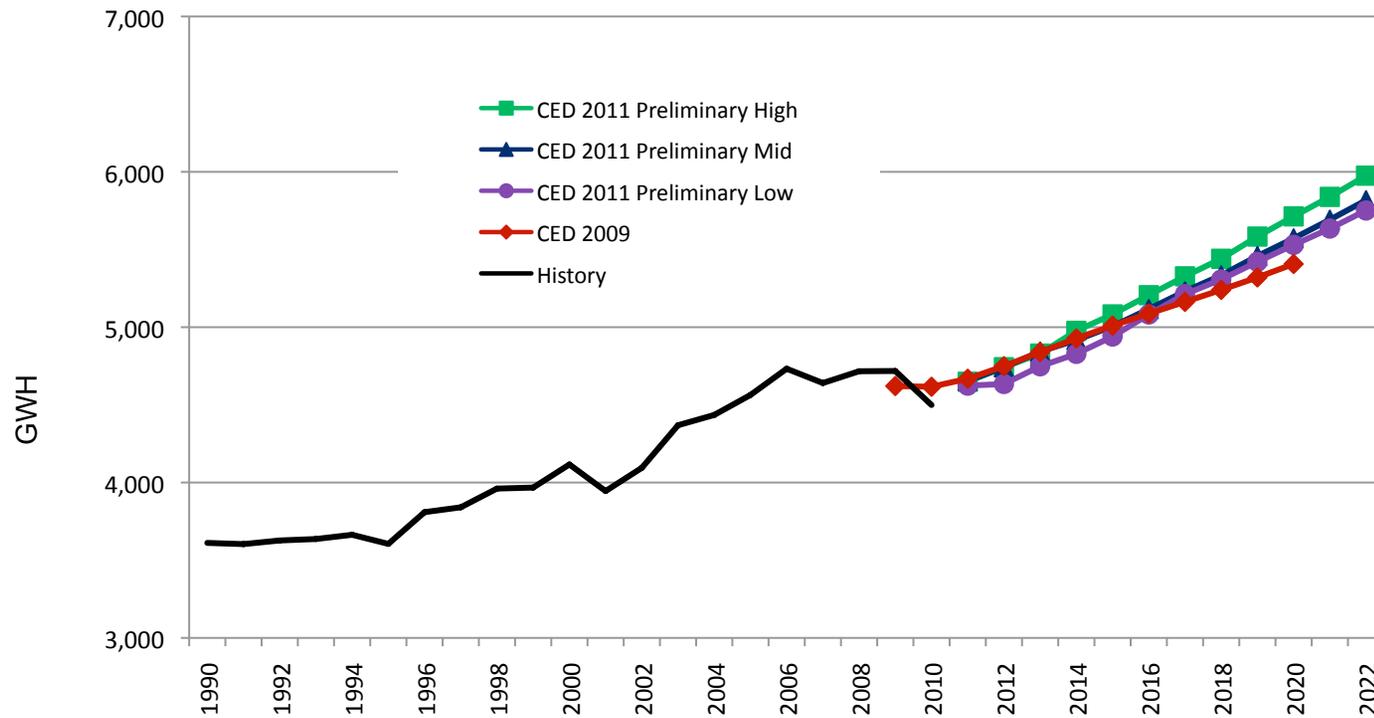
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# Residential Sector



## SMUD Residential Consumption

- Lower starting point , higher growth rate

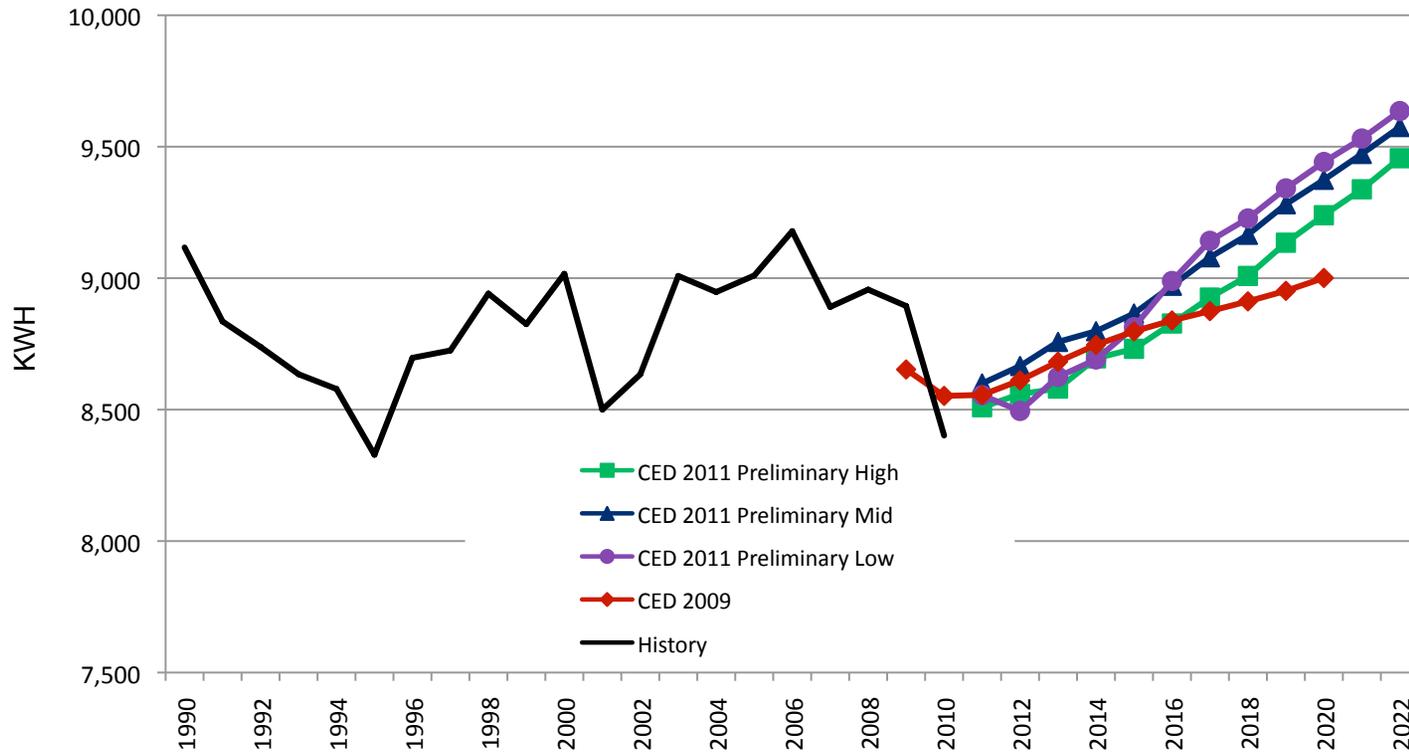




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## SMUD Residential Use per Household

- Significant drop in recent history, high growth in forecast years

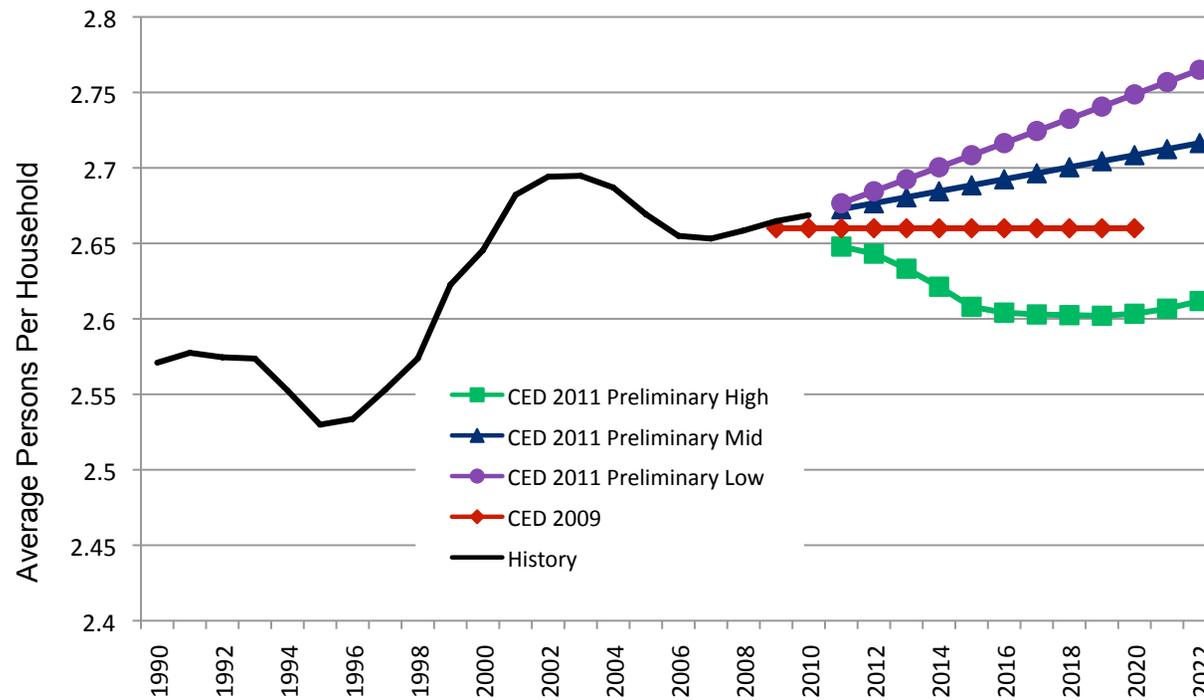




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## SMUD Persons per Household

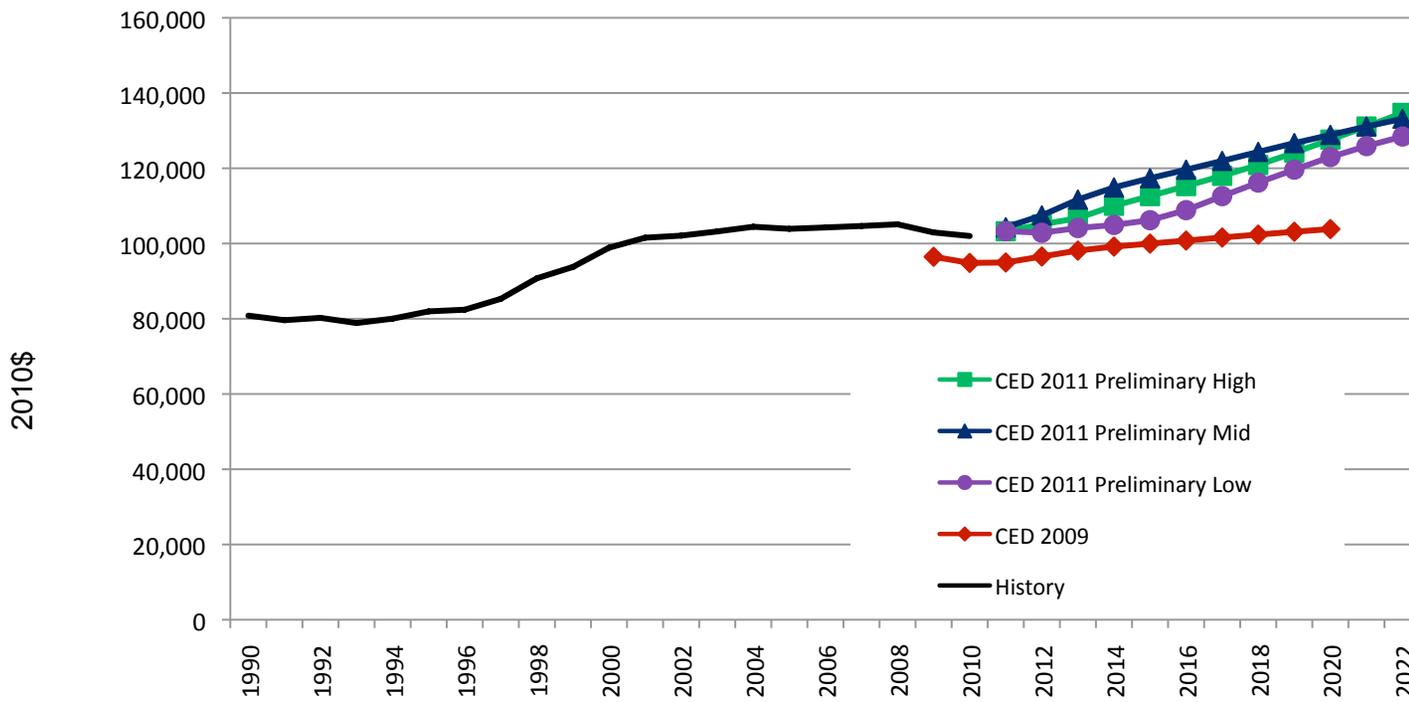
- Significant differences across scenarios





## SMUD Household Income

- Higher growth in household income



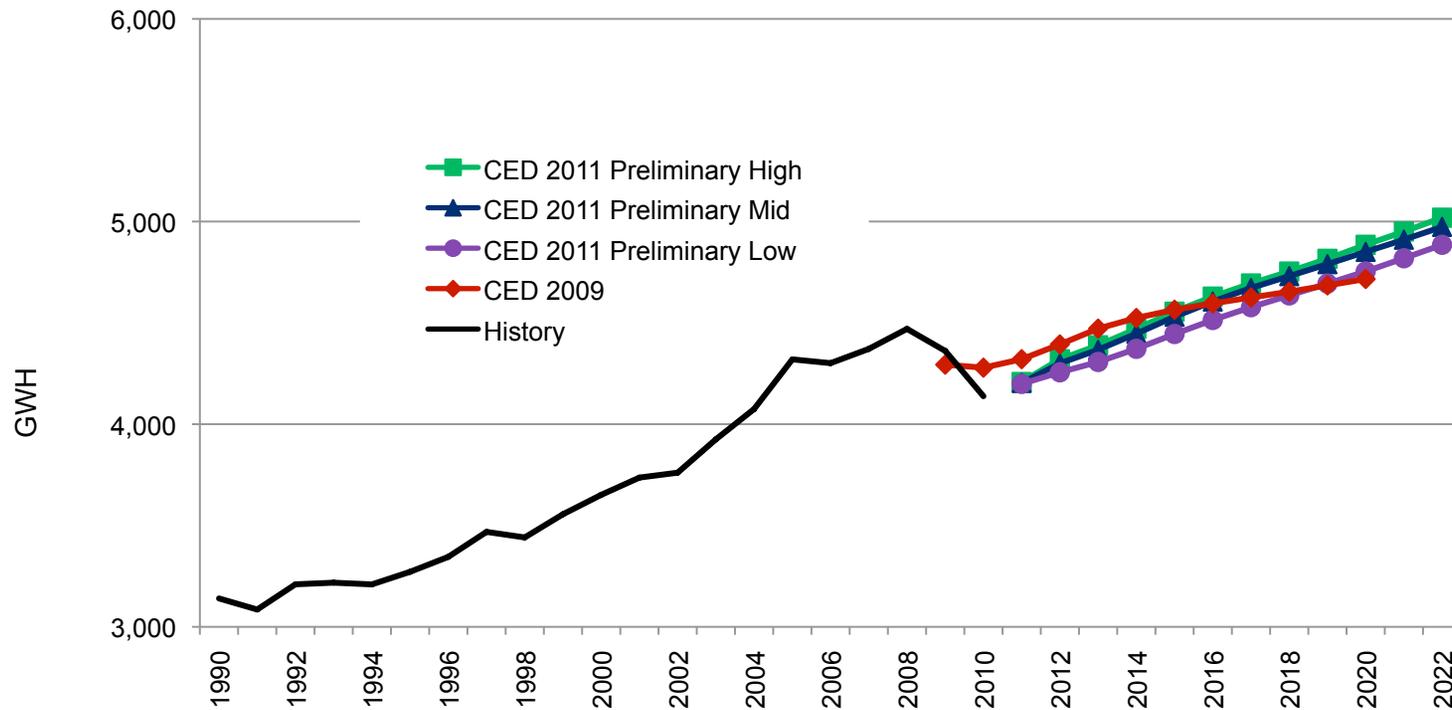


# **Non-Residential Sectors**



## SMUD Commercial Building Consumption

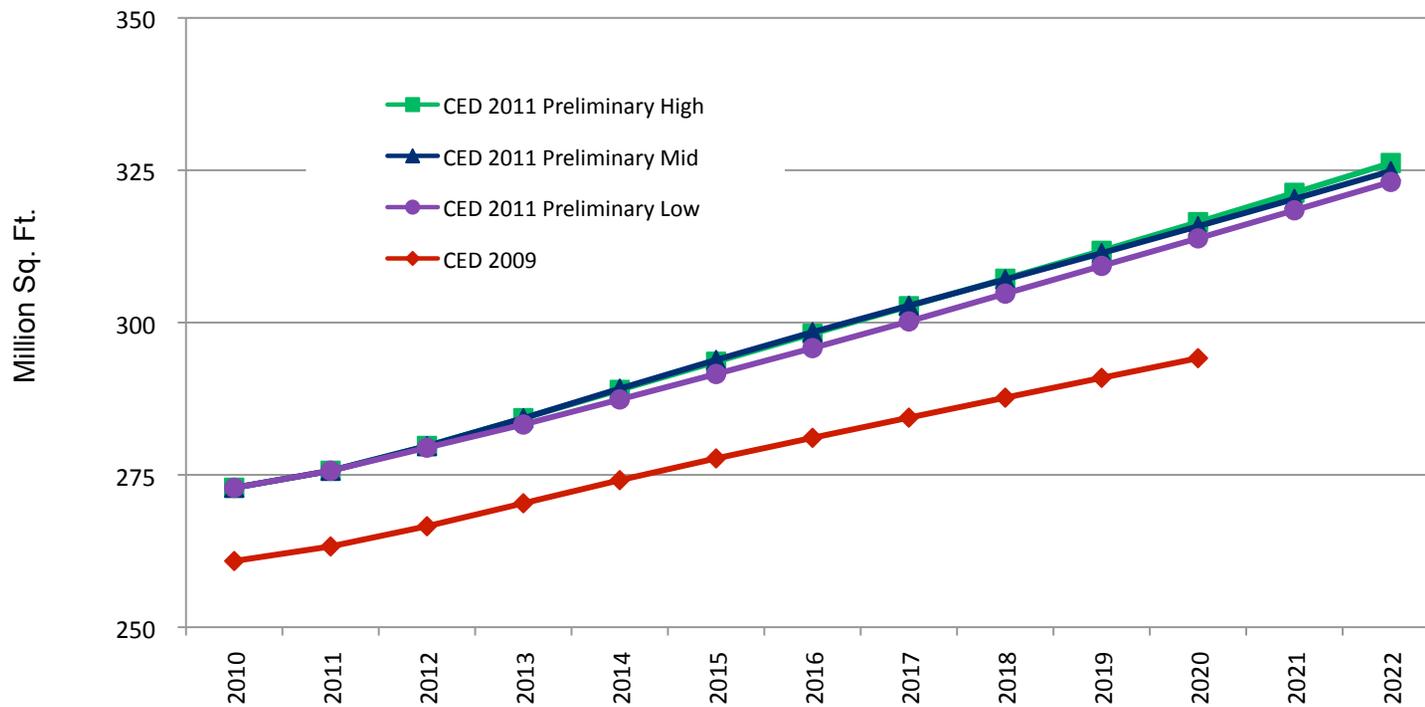
- Lower starting point , higher growth rate





## SMUD Commercial Floor Space

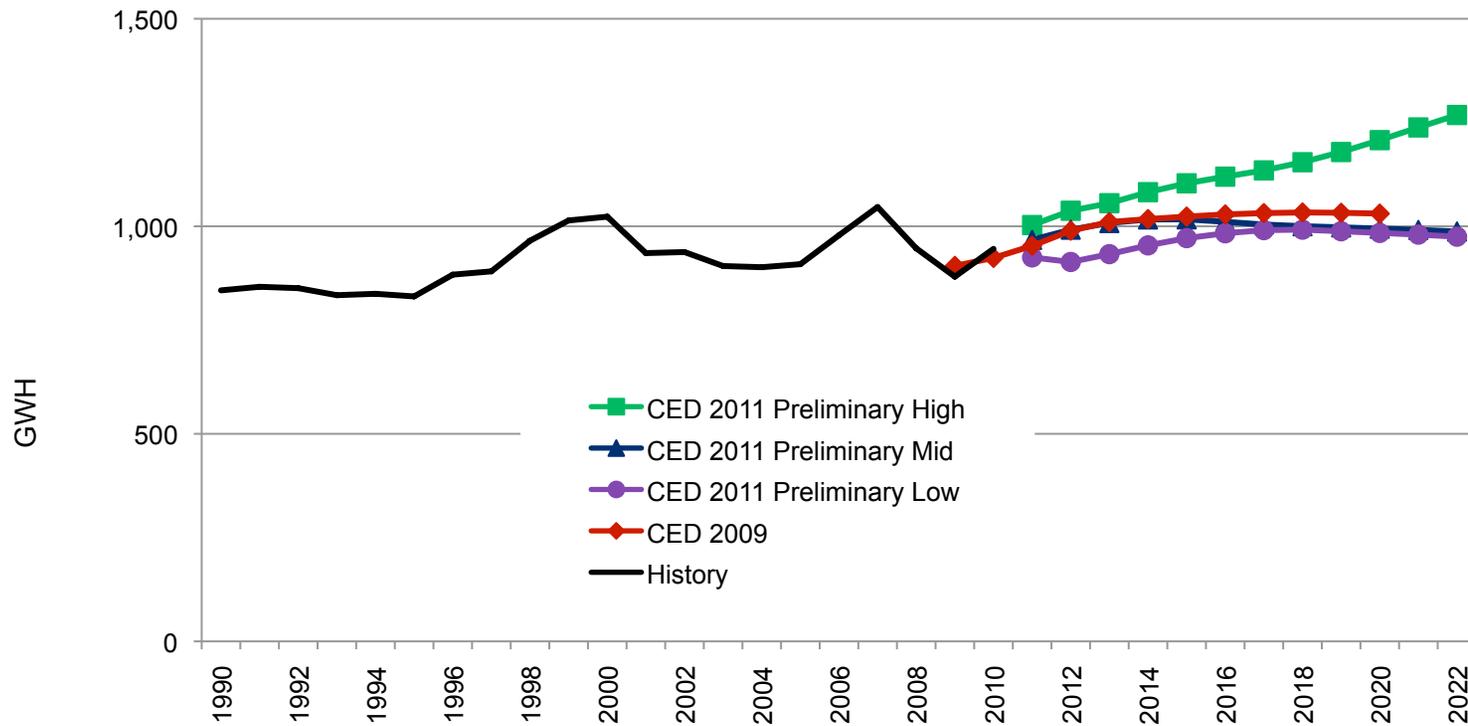
- Little variation across scenarios





## SMUD Industrial Sector Consumption

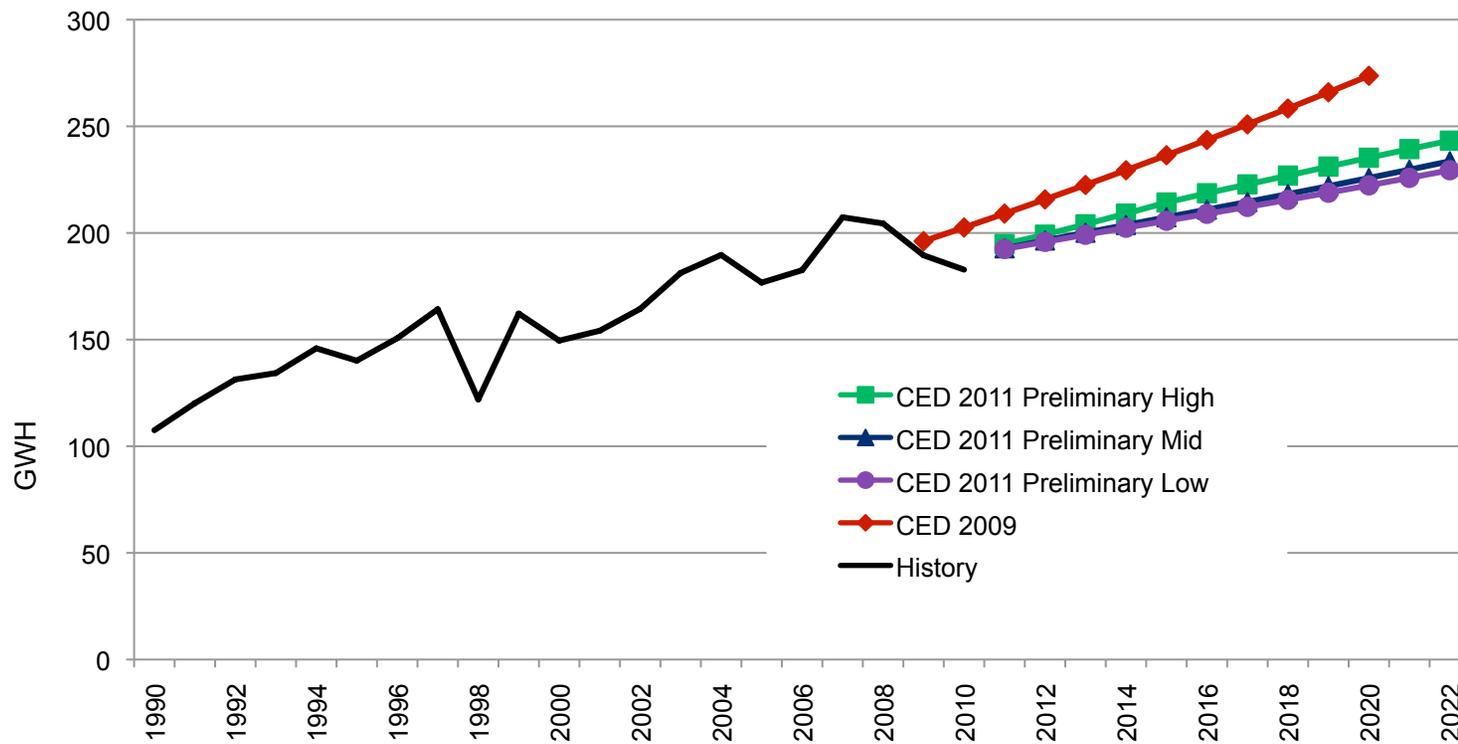
- Mid case similar to CED 2009





## SMUD Agricultural & Water Pumping Consumption

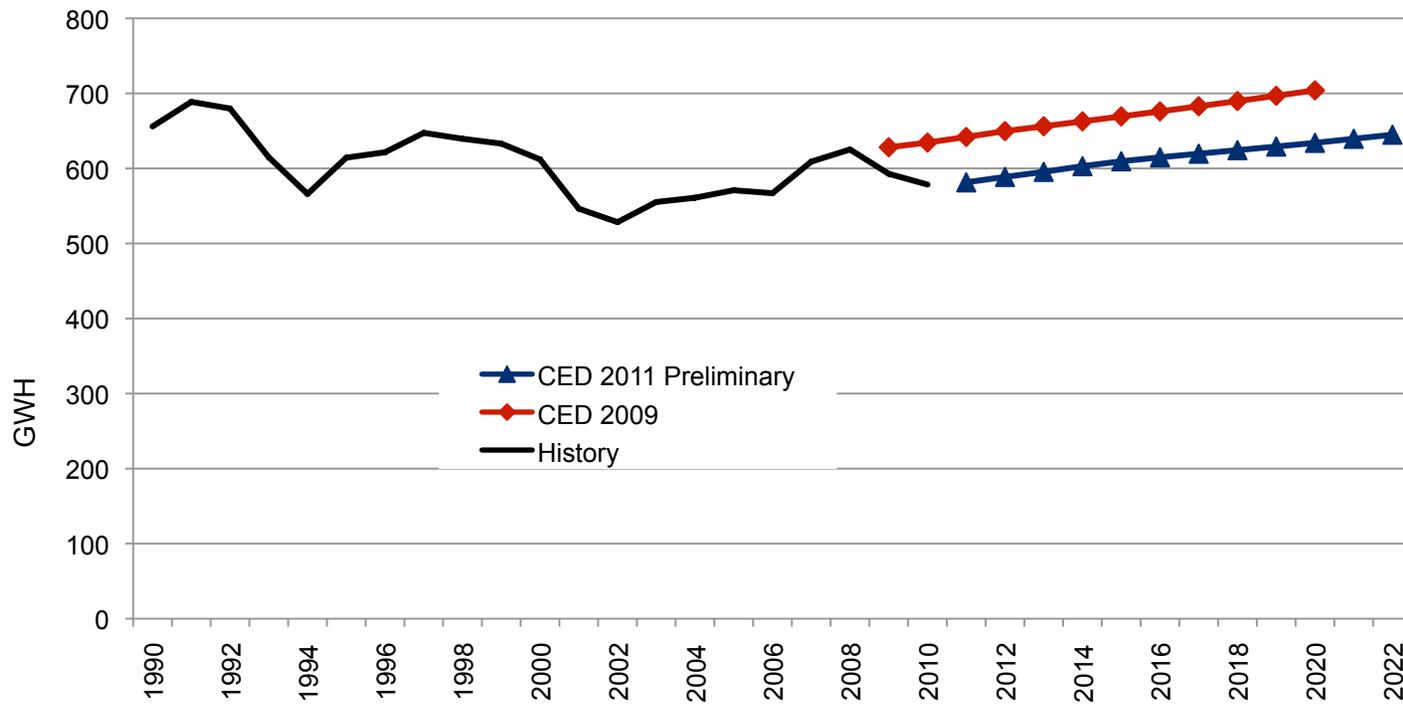
- Lower starting point, lower growth rate





## SMUD Transportation, Communications and Utilities Sector Consumption

- Lower starting value, similar growth rate



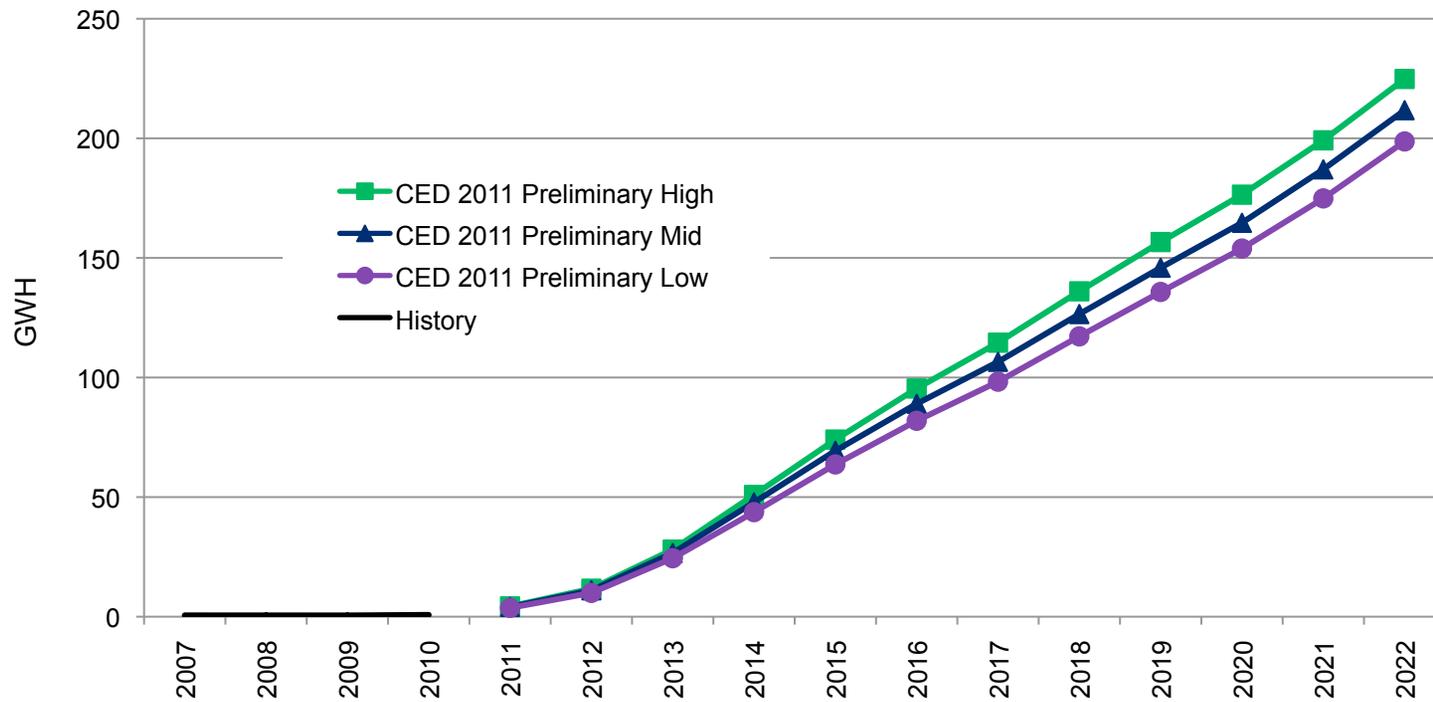


## **Other Factors**



## SMUD Electric Vehicle Consumption

- High growth over the forecast period





### SMUD Peak Savings from Self-Generation

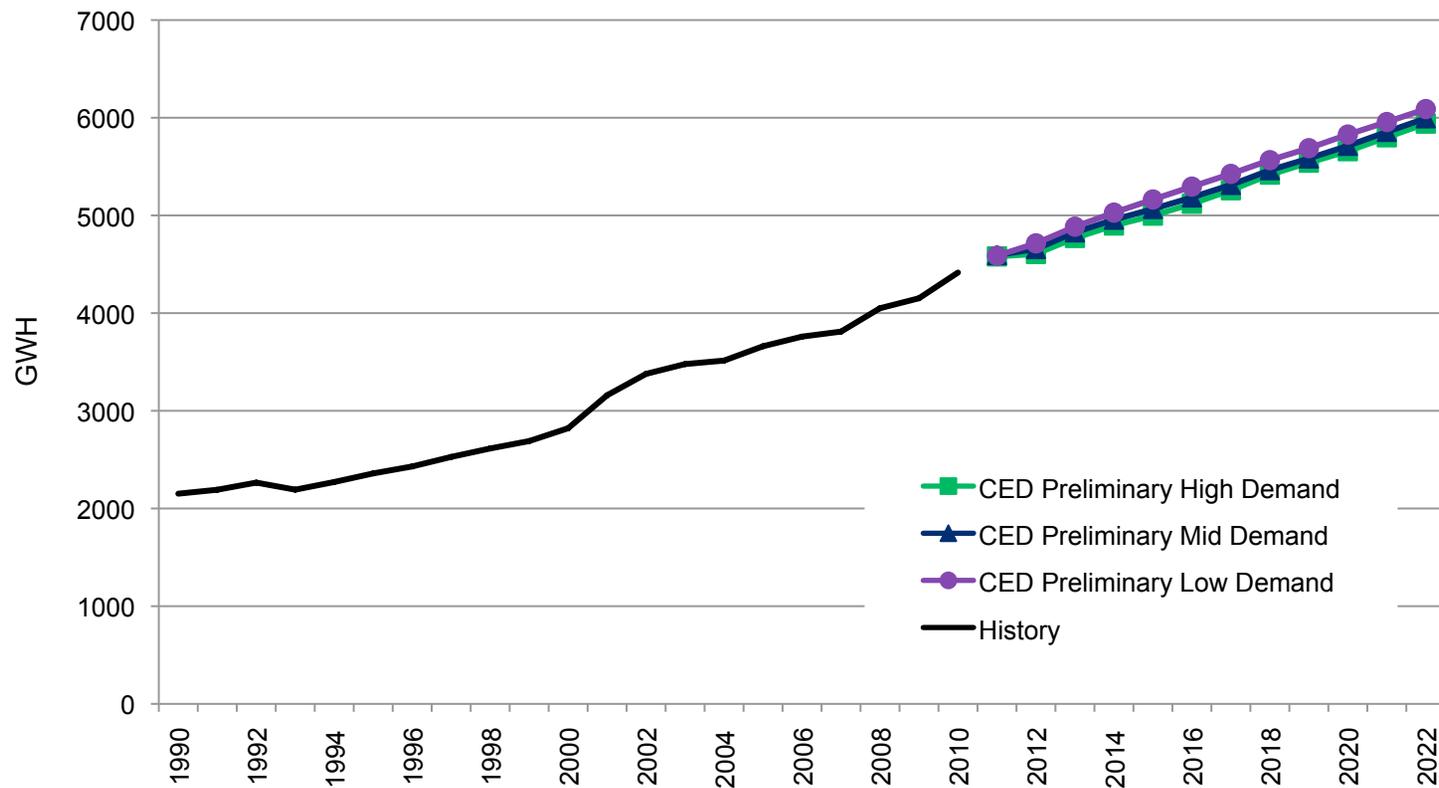
- Predominantly photovoltaics

	1990	2000	2010	2015	2020	2022
Non-PV Self-Generation	0.00	0.00	1.70	1.70	1.70	1.70
PV, low case	0.00	2.39	13.69	18.87	30.89	43.01
PV, mid case	0.00	2.39	13.69	18.45	27.96	39.53
PV, high case	0.00	2.39	13.69	18.29	27.21	38.16
Total Self-Generation, low case	0.00	2.39	15.38	20.56	32.58	44.71
Total Self-Generation, mid case	0.00	2.39	15.38	20.15	29.66	41.22
Total Self-Generation, high case	0.00	2.39	15.38	19.99	28.91	39.86



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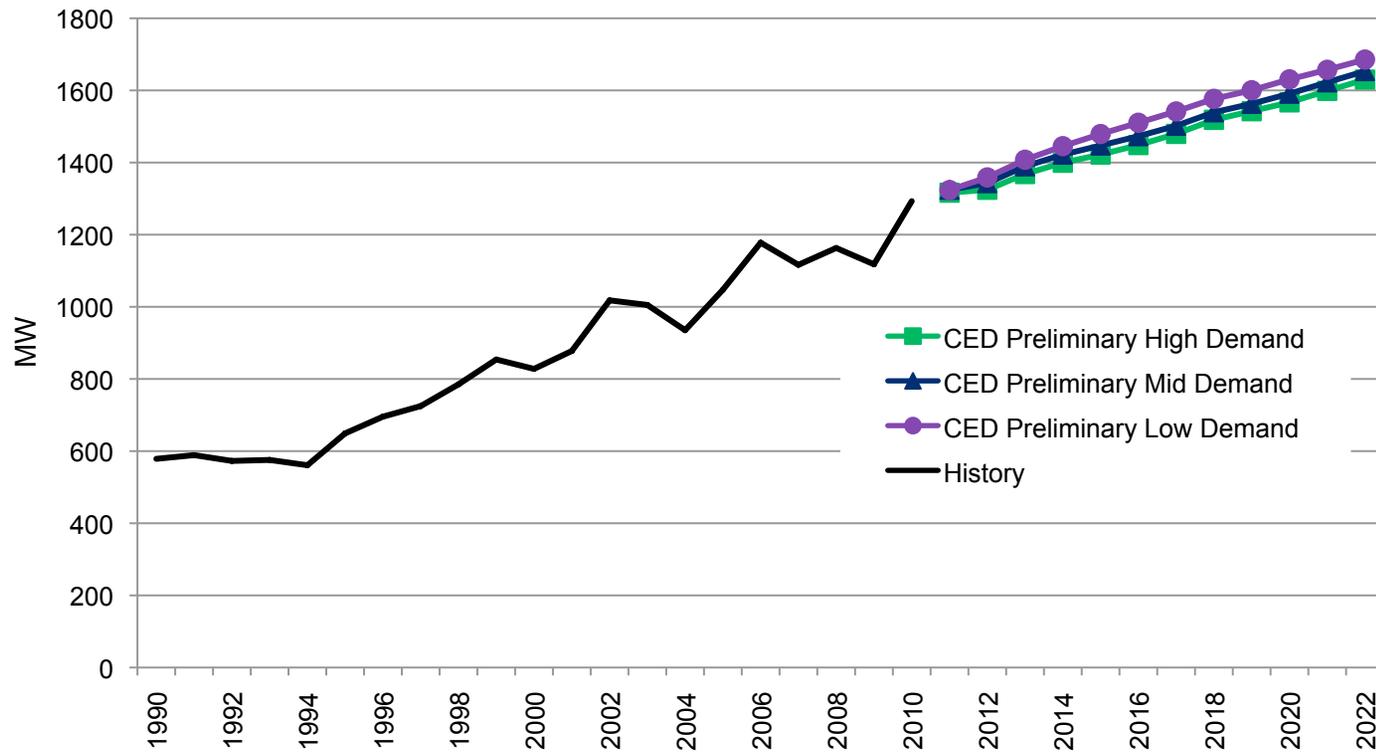
### SMUD Efficiency Savings (Consumption)





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## SMUD Efficiency Savings (Peak)



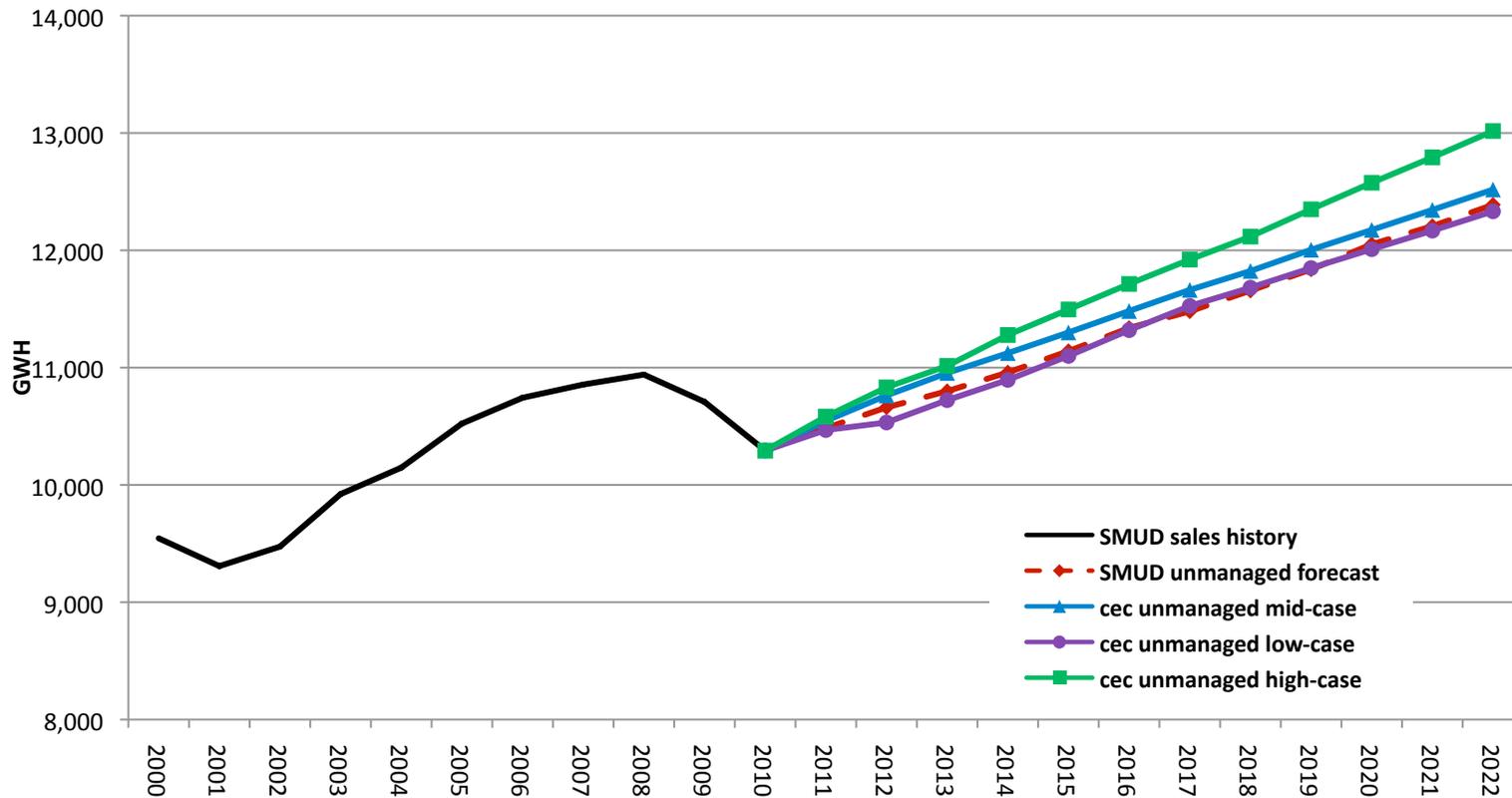


# **Forecast Comparisons**



## SMUD Unmanaged Forecast Comparison

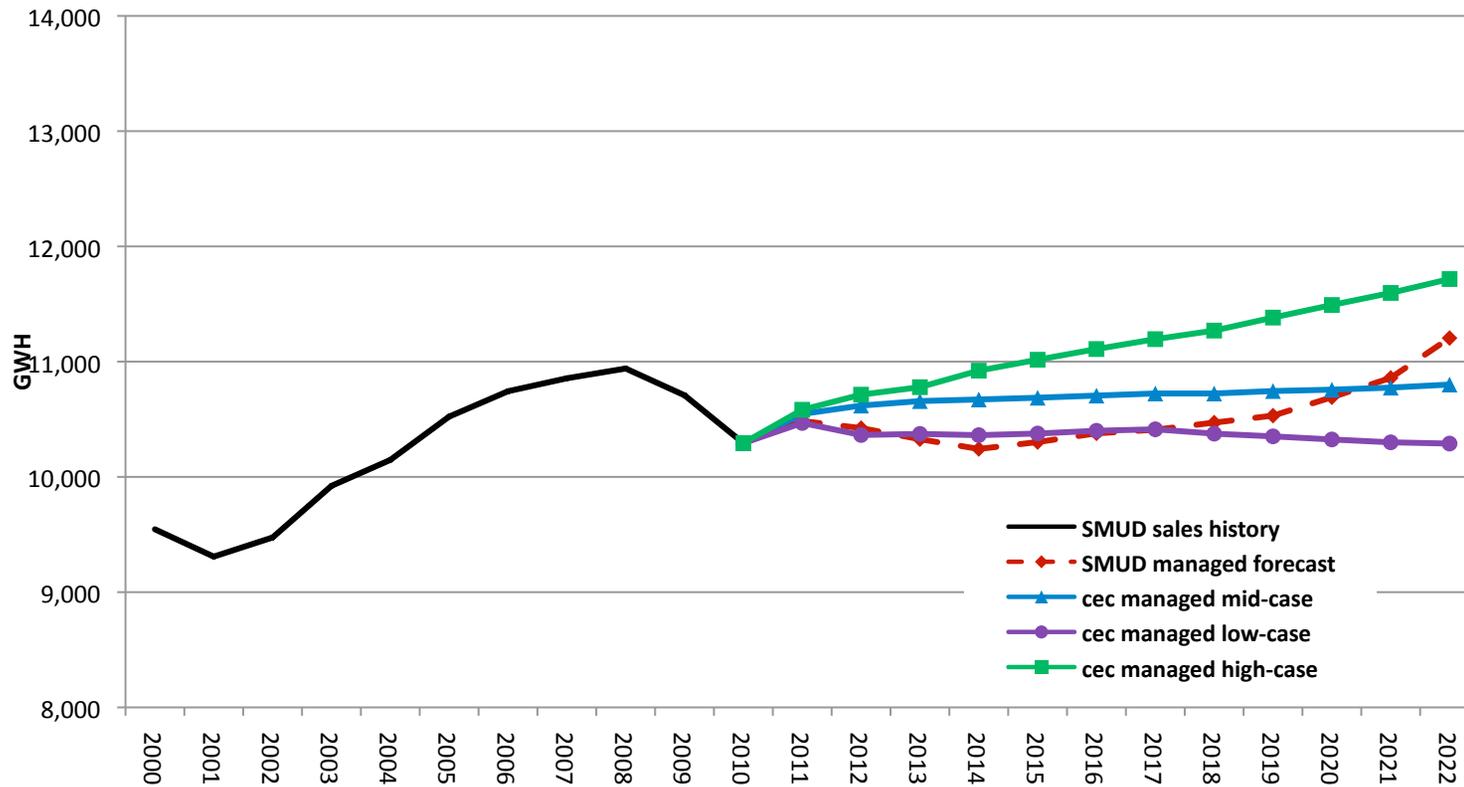
- Only committed savings/goals are included





## SMUD Managed Forecast Comparison

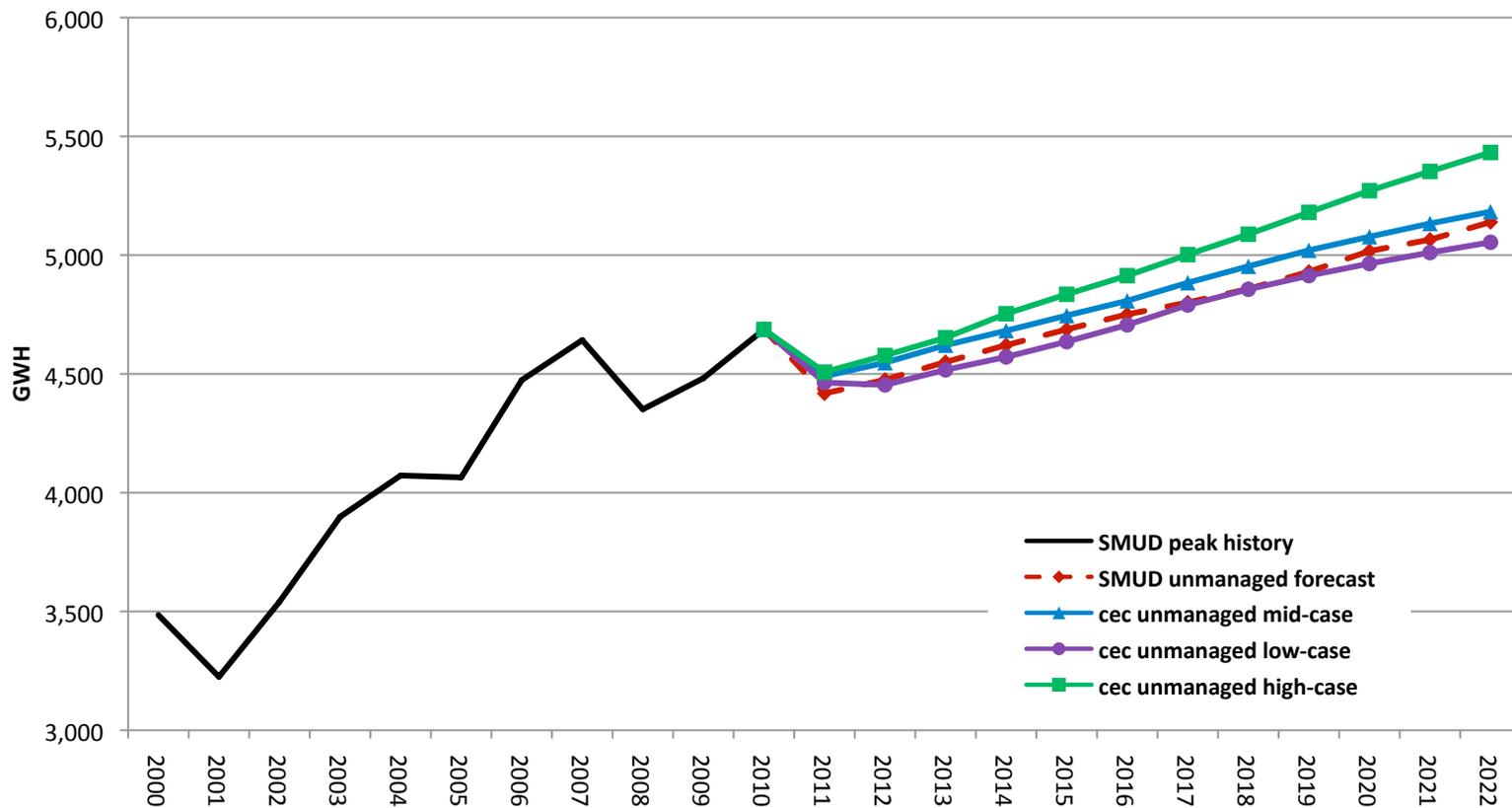
- All projected savings and goals are included





## SMUD Unmanaged Peak Forecast Comparison

- Only committed savings/goals are included





## SMUD Managed Peak Forecast Comparison

- All projected savings and goals are included

